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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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William G. Kerr

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SALIWANCHIK LLOYD & SALIWANCHIK

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EXAMINER

ZARA, JANE J

ART UNIT

PAPER NUMBER

1635

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/955,174	<b>Applicant(s)</b> KERR, WILLIAM G.	
	<b>Examiner</b> Jane Zara	<b>Art Unit</b> 1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 38-44, 46-66, 74-87 and 90-94 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-44, 46-66, 74-87, 90-94 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

This Office action is in response to the communication filed 10-20-08.

Claims 38-44, 46-66, 74-87, 90-94 are pending in the instant application.

### ***Response to Arguments and Amendments***

#### **Withdrawn Rejections**

Any rejections not repeated in this Office action are hereby withdrawn.

#### **Maintained Rejections**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 83-85, and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Geier et al (Blood, Vol. 89, No. 6, pages 1876-1885, 1997) for the reasons of record set forth in the Office action mailed 6-20-08.

Applicant's arguments filed 10-20-08 have been fully considered but they are not persuasive. Applicant argues that Geier does not teach a reduction in SHIP-1 expression using the instantly claimed composition and therefore does not qualify as proper prior art. Applicant also argues that Geier does not teach a pharmaceutically acceptable

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carrier for the nucleic acid molecule that hybridizes in vitro under stringent conditions to SHIP-1 mRNA.

Contrary to Applicant's assertions, the compositions previously taught by Geier properly anticipate the instantly claimed compositions. Geier is not being relied upon for anticipating methods of inhibition. Geier is relied upon for anticipating compositions comprising a nucleic acid molecule in a pharmaceutically acceptable carrier, which nucleic acid molecule hybridizes in vitro under stringent conditions to SHIP-1 mRNA present in human or mouse hematopoietic cells. The antisense oligonucleotide disclosed in the third full paragraph on page 1877 fulfills all of the characteristics of the instantly claimed compositions, and would be presumed to hybridize to the SHIP-1 mRNA target molecule as instantly claimed, absent evidence to the contrary. In addition, the solutions taught by Geier for performing the cloning, amplification, and analysis of SHIP mouse and human constructs contained the pharmaceutically acceptable carrier, water.

For these reasons, the instant rejection is maintained.

Claims 38-44, 74-76, 83-87, 90, 93 and 94 are rejected under 35 U.S.C. 102(b) as being anticipated by Rohrschneider et al (WO 97/10252) for the reasons of record set forth in the Office action mailed 6-20-08.

Applicant's arguments filed 10-20-08 have been fully considered but they are not persuasive. Applicant argues that Rohrschneider does not teach or suggest methods of reducing SHIP-1 function, but instead only teaches antisense for blocking

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overexpression of SHIP, which is not the same as reducing SHIP-1 function. Applicant also argues that Rohrschneider does not teach a nucleic acid in a pharmaceutically acceptable carrier.

Contrary to Applicant's assertions, the abstract of Rohrschneider states that the polynucleotides of the instant invention are to be used in screens for identifying therapeutic compounds capable of inhibiting expression of SHIP for SHIP-associated diseases such as cancer. What's more, a reduction of expression, as well as a reduction in the overexpression of SHIP using antisense oligonucleotides both lead to a reduction in the function of SHIP. That is, one would logically assume that a reduction in the expression of SHIP would lead to a reduction in the function of SHIP.

On pages 13, 17-18 of Rohrschneider, reference is given to the routine methods of hybridization using antisense oligonucleotides that target and complement the target SHIP nucleic acids. One of skill in the art would logically assume that the methods of hybridization utilized by Rohrschneider involve compositions comprising the antisense oligonucleotides in the presence of water, which is a pharmaceutically acceptable diluent (see, e.g., pages 32-36 of the instant specification). Rohrschneider teaches the motivation to inhibit SHIP overexpression in disease states, or where mutations occur in the SHIP molecule, comprising the administration of antisense oligonucleotides targeting SHIP, including SHIP-1, which antisense are optionally in a viral expression vector or plasmid, or complexed with a liposome, and which compositions would also comprise the pharmaceutically acceptable diluent, water.

For these reasons, the instant rejection is maintained.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 46-66, 77-82, 91 and 92 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 11/787,064. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to methods of reducing host immune response in a mammal comprising the administration of inhibitory oligonucleotides that target and inhibit the expression of SHIP-1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

No arguments have been made addressing this rejection.

*New Rejections*

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 38-44, 46-66, 74-87, 90-94 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to compositions and methods for reducing SHIP-1 function in human or mouse hematopoietic cells in vivo, methods of suppressing rejection of a transplant in a human or mouse, and methods of suppressing graft-versus-host disease in a human or mouse having or in need of a transplant comprising the administration of an RNA specific for SHIP-1 mRNA present in hematopoietic cells of the human or mouse. The specification and claims do not adequately describe the broad genera comprising

Applicant has provided post-filing evidence of the disclosure of experiments in which siRNA (*a.k.a.* interfering RNA or RNAi) molecules #1, 2, 3 and 4, or a combination or subcombination of them, were found to successfully inhibit the

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expression of SHIP-1 in vitro and in vivo (see declaration filed 7-21-04). The original application, however, does not provide disclosure of these siRNA molecules, nor of these experiments, nor of any mention of interfering RNA molecules in general. The existence of publications, provided in the supplemental IDS (filed 10-7-05) with various references teaching RNAi molecules and their use in RNAi-mediated gene suppression in mammalian cells, does not compensate for the failure to provide support for RNAi in the original application.

The genus of RNA molecules claimed encompasses a broad array of inhibitory nucleic acid molecules, and the disclosure fails to provide a representative number of species for the genus claimed, including the disclosure of any siRNA molecules at the time of filing. The specification and claims do not adequately describe the concise structural features (e.g. the nucleotide sequences) that distinguish structures within each genus from those without, and which provide for the functions claimed, of reducing SHIP-1 function in human or mouse hematopoietic cells in vivo, of suppressing rejection of a transplant in a human or mouse, and of suppressing graft-versus-host disease in a human or mouse.

The specification teaches SHIP-1 ablation experiments which provide for altered NK cell function and GVHD. The post-filing success of two RNAi's in their ability to target and successfully inhibit expression of the target gene encoding SHIP1 in a mouse model, and provide for an observed increase in Mac+Gr1 monocytes and circulating Mac1+GR1+cells (myeloid suppressor cells) is not representative of obtaining in vivo SHIP-1 inhibition of expression comprising the administration of *any* RNA molecule



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specific for SHIP-1 mRNA present in human or mouse hematopoietic cells, or comprising the administration of *any* nucleic acid molecule that hybridizes in vitro under conditions of stringency with human or mouse SHIP-1 mRNA or that hybridizes in vivo with SHIP-1 mRNA present in mouse or human hematopoietic cells, nor of preventing a transplant rejection in any patient, or preventing or treating graft versus host disease (GVHD) in any patient comprising the administration of any interfering RNA specific for SHIP mRNA.

Animal models were provided in *C. elegans*, zebrafish, *Drosophila* and mammalian cell culture as taught previously by Zamore et al and Svoboda et al, and were cited on p. 2 of Dr. Kerr's declaration filed 7-21-04, and here RNAi provided particular guidance for in vivo delivery of oligonucleotides and treatment effects. The examples provided pertaining to RNAi in *C. elegans*, zebrafish and *Drosophila* are not representative or correlative of the ability to target appropriate target cells (hematopoietic cells) harboring SHIP-1 mRNA in a mice or humans. The in vitro targeting and inhibition of SHIP-1 in mammalian cell culture, including ES cells, as described on p. 3 of Dr. Kerr's declaration, filed 7-21-04, are not representative of successful in vivo targeting and inhibiting of SHIP-1 function by a representative number of species of RNA molecules that successfully provide for the functions claimed, of targeting and inhibiting the function of SHIP-1 in mice or humans and or providing for the treatment effects claimed. It is also noted that the RNAi successfully used by Applicant (e.g. using the RNAi molecules labeled #1 and #4, and the antisense vector used to inhibit mouse SHIP-1 in vivo as described in the declaration filed 7-21-04) are

not representative of the genus claimed. The two RNAis that successfully inhibited expression of the target gene encoding SHIP-1 in a mouse model, and provided for an observed increase in Mac+Gr1 monocytes and circulating Mac1+GR1+cells (myeloid suppressor cells) are not representative of the genus of compounds claimed.

The instant disclosure does not adequately describe the concise structural features that distinguish structures within the claimed genus from those without (e.g. the nucleotide sequences or a representative number of RNA molecules that specifically bind and inhibit SHIP-1 function in vivo, and which suppress graft-versus-host disease and transplant rejection). The description provided of the target molecules claimed and the subsequent description of two RNAi constructs (filed 7-21-04) that provide for the functions claimed, of reducing SHIP-1 function in human or mouse hematopoietic cells in vivo, and of suppressing rejection of a transplant in a human or mouse, are not representative of the broad genus comprising RNAi that hybridize in vivo with SHIP-1 mRNA present in hematopoietic cells of the human or mouse and reduce SHIP-1 expression therein. The subsequent disclosure of two species within the broad genus of RNA molecules claimed, that, when combined provide for the treatment effects claimed, are not representative of the broad genus of inhibitory molecules claimed.

The specification and claims do not adequately describe the concise structural features that distinguish structures within the claimed genus from those without (e.g. the exact nucleotide sequences or a representative number of RNA molecules of the generic RNA structures claimed, encompassing ribozymes, antisense molecules..., that

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specifically bind and inhibit SHIP-1 function in vivo, and which suppress graft-versus-host disease and transplant rejection.

One of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species of the inhibitory molecules claimed, encompassing the genus comprising RNA specific for SHIP-1 mRNA present in human or mouse hematopoietic cells that hybridizes in vivo with SHIP-1 mRNA present in mouse or human hematopoietic cells and provides the treatment effects claimed.

For these reasons, the instant 35 U.S.C. 112, first paragraph rejection, for lacking adequate written description and for failing to provide adequate support for RNAi in the originally filed application, is proper.

Claims 38-44, 46-66, 74-82, 90-94 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of suppressing the rejection of an allogeneic bone marrow graft from BALB/C mice in SHIP-/- mice or abrogating GVHD disease in SHIP-/- mice that were transplanted with whole bone marrow from BALB/C mice, thereby enhancing SHIP-/- mice survival, and while being enabling for the in vivo inhibition of SHIP-1 expression in mice using the RNAi sequences #1, #4 and the mouse antisense vector muSHIPshRNA provided in the declarations by Dr. Kerr, filed 7-21-04 and 2-9-05, does not reasonably provide enablement for inhibiting SHIP-1 in vivo comprising the administration of *any* RNA specific for SHIP-1 mRNA present in human or mouse hematopoietic cells, or comprising the administration of *any* nucleic acid molecule that hybridizes in vitro under

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conditions of stringency with human or mouse SHIP-1 mRNA or that hybridizes in vivo with SHIP-1 mRNA present in mouse or human hematopoietic cells, nor of preventing a transplant rejection in any patient, or preventing or treating graft versus host disease (GVHD) in any patient comprising the administration of any RNA specific for SHIP mRNA. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claims are drawn to compositions and methods for inhibiting SHIP-1 in vivo, for suppressing or preventing a transplant rejection in a patient, and for preventing or treating graft versus host disease (GVHD) in a patient comprising the administration of an RNA molecule specific for SHIP-1 mRNA present in human or mouse hematopoietic cells, whereby SHIP-1 expression is inhibited in that organism and treatment effects provided.

The following factors have been considered in determining that the specification does not enable the skilled artisan to make and/or use the invention over the scope claimed.

**The state of the prior art and the predictability or unpredictability of the art.**

The following references (already of record) are cited herein to illustrate the state of the art of nucleic acid treatment in organisms. Branch and Crooke teach that the in vivo (whole organism) application of nucleic acids (such as antisense) is a highly unpredictable endeavor due to target accessibility and delivery issues. Crooke also points out that cell culture examples are generally not predictive of in vivo inhibition of

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target genes. (A. Branch, Trends in Biochem. Sci. 23: 45-50, document "BA" in IDS filed 11-17-03, see entire text for Branch; S. Crooke, Antisense Res. and Application, Chapter 1, pp. 1-50, especially at 34-36).

Likewise, Peracchi cautions investigators in the field of gene therapy about the problems of achieving in vivo efficacy using oligonucleotide based approaches. Peracchi cites stability and delivery obstacles that need to be overcome in achieving desired in vivo efficacy: "A crucial limit of ribozymes in particular, and of oligonucleotide-based drugs in general, lies in their intrinsically low ability to cross biological membranes, and therefore to enter the cells where they are supposed to operate...cellular uptake following systemic administration appears to require more sophisticated formulations... the establishment of delivery systems that mediate efficient cellular uptake and sustained release of the ribozyme remains one of the major hurdles in the field." (A. Peracchi et al, Rev. Med. Virol., 14: 47-64, especially at 51).

Agrawal et al also speak to the unpredictable nature of the nucleic acid based therapy field thus: "It is therefore appropriate to study each ... oligonucleotide in its own context, and relevant cell line, without generalizing the results for every oligonucleotide (S. Agrawal et al., Molecular Med. Today, 6: 72-81 at 80). Cellular uptake of oligonucleotides by appropriate target cells is another rate limiting step that has yet to be overcome in achieving predictable clinical efficacy using antisense." Both Chirila et al and Agrawal et al point to the current limitations which exist in our understanding of the cellular uptake of ... oligonucleotides in vitro and in vivo (see Agrawal et al especially at pages 79-80; see Chirila et al., Biomaterials, 23: 321-342 in its entirety,

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especially at 326-327 for a general review of the important and inordinately difficult challenges of the delivery of therapeutic oligonucleotides to target cells).

**The amount of direction or guidance presented in the specification AND the presence or absence of working examples.** Applicants have not provided guidance in the specification toward a method of inhibiting the expression of SHIP-1 in vivo comprising the administration of a representative number of species of RNA molecules specific for SHIP-1 mRNA present in human or mouse hematopoietic cells wherein the claimed treatment effects are provided. Applicants have not provided guidance toward a method of treating or preventing a transplant rejection in a patient, or preventing or treating graft versus host disease (GVHD) in a patient comprising the administration of number of species of compounds encompassed by the genus claimed. The specification teaches the suppression of the rejection of a an allogeneic bone marrow graft from BALB/C mice in SHIP-/- mice, as well as the abrogation of GVHD disease in SHIP-/- mice that were transplanted with whole bone marrow from BALB/C mice, whereby SHIP-/- mice survival was enhanced. The declarations filed 7-21-04 and 2-9-05 teach the in vivo inhibition of SHIP-1 following the co-administration of RNAi sequences #1, #4, or following the administration of the mouse antisense vector muSHIPshRNA.

The ability of these co-administered RNAi's, or of the mouse antisense vector muSHIPshRNA to target and successfully inhibit expression of the target gene encoding SHIP1 in a mouse model, and provide for an observed increase in Mac+Gr1 monocytes and circulating Mac1+GR1+cells (myeloid suppressor cells) is not representative of

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providing treatment effects including altering NK function, preventing transplant rejection in any patient, or preventing or treating graft versus host disease (GVHD) in any mammal following administration of a representative number of RNA molecules encompassed by this genus, or following administration of the mouse antisense vector muSHIPshRNA. It is not representative or correlative of the ability to achieve in vivo SHIP-1 inhibition of expression or treatment effects comprising the administration of any RNA specific for SHIP-1 mRNA present in human or mouse hematopoietic cells.

One skilled in the art would not accept on its face the examples given in the specification of the enhanced survival and reduction of transplant rejection in a mouse model using SHIP<sup>-/-</sup> mice as being correlative or representative of the successful inhibition of expression of SHIP in vivo using interfering RNA specific for SHIP mRNA, and further whereby treatment or prophylactic effects are provided for transplant rejection or graft versus host disease (GVHD) in a patient in view of the lack of guidance in the specification and known unpredictability associated with the ability to predict the efficacy of interfering RNA in inhibiting the expression of SHIP in any organism and in treating, suppression or preventing transplant rejection or graft versus host disease (GVHD) in a patient following administration by any route of the claimed oligonucleotides. The specification as filed fails to provide any particular guidance which resolves the known unpredictability in the art associated with in vivo delivery and treatment effects provided by the claimed oligonucleotides administered, and specifically regarding the instant compositions and methods claimed.

**The breadth of the claims and the quantity of experimentation required.**

The breadth of the claims is broad. The claims are drawn to compositions and methods for inhibiting SHIP-1 expression in vivo, and for suppressing or preventing a transplant rejection in a patient, or preventing or treating graft versus host disease (GVHD) in a patient comprising the administration of any RNA specific for SHIP-1 mRNA in mouse or human hematopoietic cells, whereby SHIP expression is inhibited in mice or humans.

The quantity of experimentation required to practice the invention as claimed would require the *de novo* determination of accessible target sites, modes of delivery and formulations to target hematopoietic cells harboring the target gene or genes SHIP-1, whereby SHIP expression is inhibited in vivo by a representative number of species of the genus of inhibitory compounds claimed, and further whereby treatment and/or prophylactic effects are provided for transplant rejection or graft versus host disease (GVHD) in a patient comprising the administration via any means of any RNA of any size specific for SHIP-1 mRNA present in human or mouse hematopoietic cells. Since the specification fails to provide any particular guidance for the successful targeting and inhibition of expression of SHIP-1 in vivo comprising administration of a representative number of species of inhibitory nucleic acids encompassed by the genus claimed, and since determination of these factors is highly unpredictable, it would require undue experimentation to practice the invention over the scope claimed.

**Conclusion**

Certain papers related to this application may be submitted to Art Unit 1635 by facsimile transmission. The faxing of such papers must conform with the notices



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published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. ' 1.6(d)). The official fax telephone number for the Group is 571-273-8300. NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Zara whose telephone number is (571) 272-0765. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Douglas Schultz, can be reached on (571) 272-0763. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Jane Zara**  
**1-13-09**

/Jane Zara/

Primary Examiner, Art Unit 1635

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